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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/739,265	12/19/2000	Hiroyuki Yasoshima	57457-015	5780

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EXAMINER

ROSS, JOHN M

ART UNIT	PAPER NUMBER
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2188

DATE MAILED: 10/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/739,265

Applicant(s)

YASOSHIMA, HIROYUKI

Examiner

John M Ross

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 August 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 6,7,9,10,16,17,19 and 20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6,7,9,10,16,17,19 and 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 April 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Status of Claims

1. Claims 1-5, 8, 11-15, 18 and 21 are canceled.

Claims 6-7, 9-10, 16-17 and 19-20 are pending in the application.

Claims 6-7, 9-10, 16-17 and 19-20 are rejected.

Response to Amendment

2. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Applicant's amendments and arguments filed on 19 August 2004 in response to the advisory action mailed on 3 August 2004 have been fully considered, but they are not persuasive. Therefore, the rejections made in the previous office action are maintained, and restated below.

Claim Objections

3. The amendment has overcome the objections to the claims.

Claim Rejections - 35 USC § 112

4. The amendment has overcome the rejections under 35 USC 112.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 6-7, 10, 16-17 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art (APA) in view of O'Neill (WO 96/38778 A1).

As in claim 6, APA discloses a system comprising:

a ring buffer which acts as one ring, having a plurality of address locations for storing incoming data (Fig. 2B);

a first boundary pointer for indicating an end point of a first buffer area formed within the ring buffer in to which the incoming data can be stored (Fig. 2B; page 3, lines 20-22); and

a second boundary pointer for indicating an end point of a second buffer area formed within the ring buffer into which the incoming data can be stored (Fig. 2B; page 3, lines 20-22).

APA does not teach a controller for adjusting the value of the first and second boundary pointers in accordance with the amount of incoming data to be stored as required by claim 6.

APA also does not teach that the controller dynamically varies the value of the first and second boundary pointer during operation in response to the amount of incoming data to be stored as required by claim 10.

As to claim 6, O'Neill teaches a system where first and second boundary pointers indicate end points of a first and second buffer area (Fig. 3, elements A and B; page 3, lines 10-21), and where a controller adjusts the value of the first and second boundary pointers in accordance with the amount of incoming data to be stored, thereby allowing the sizes and relative sizes of the buffers to be varied (Page 2, lines 8-13; page 2, line 26 to page 3, line 2; page 3, lines 22-27).

Regarding claim 6, it would have been obvious to one of ordinary skill in the art at the time of invention by applicant to define boundary pointers, and use a controller to adjust the values of the first and second boundary pointers in accordance with the amount of incoming data to be stored as taught by O'Neill, in the system of APA, in order to allow the sizes and relative sizes of the buffers to be varied as taught by O'Neill.

As in claim 7, APA discloses:

a first read pointer, coupled to the memory array, for indicating a read address of the first buffer area (Fig. 2B; page 3, line 20 to page 4, line 8);

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a first write pointer, coupled to the memory array, for indicating a write address of the first buffer area (Fig. 2B; page 3, line 20 to page 4, line 8);

a second read pointer, coupled to the memory array, for indicating a read address of the second buffer area (Fig. 2B; page 3, line 20 to page 4, line 8); and

a second write pointer, coupled to the memory array, for indicating a write address of the second buffer area (Fig. 2B; page 3, line 20 to page 4, line 8).

As to claim 10, O'Neill discloses that the controller dynamically varies the value of the boundary pointers during operation in response to the amount of incoming data to be stored (Page 2, line 26 to page 3, line 2; page 3, line 24 to page 4, line 7). Because O'Neill indicates that the boundaries are altered as an adaptation to monitored traffic flows, and also describes a method to move the boundaries while the first-in/first-out buffer is occupied with data, it may be understood that this process takes place dynamically. O'Neill further teaches that this process saves memory and allows memory to adapt to traffic in a network (Page 4, lines 4-7).

Regarding claim 10, it would have been obvious to one of ordinary skill in the art at the time of invention by applicant to dynamically vary the value of the first and second boundary pointers during operation in response to the amount of incoming data as taught by O'Neill, in the system of APA, in order to save memory and allow adaptation to traffic in a network as taught by O'Neill.

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Claims 16-17 and 20 are rejected using the same rationale as for the rejection of claims 6-7 and 10, respectively.

7. Claims 9 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art (APA) in view of O'Neill (WO 96/38778 A1) as applied to claims 6 and 16 above, and further in view of Kornher (US 6,094,695).

APA and O'Neill are relied upon for the teachings relative to claims 6 and 16 as above.

The combination of APA and O'Neill does not teach that the controller operates to move the first and second boundary pointers so as to increase the size of the buffers on the basis of a 1:1 correspondence with the amount of incoming data as required by claims 9 and 19.

The rationale derived from Kornher in the rejection of claim 4 above is incorporated herein for the teaching of a controller operating to move a boundary pointer so as to increase the size of a buffer on the basis of a 1:1 correspondence with an amount of incoming data (Fig. 3; column 6, lines 22-58).

Kornher also teaches that moving the boundary allows the buffer size to increase and decrease as needed, thereby allowing a smaller amount of memory space to be reserved for data storage (Column 2, lines 54-62).

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Regarding claim 9, it would have been obvious to one of ordinary skill in the art at the time of invention by applicant to move the boundary pointers on the basis of a 1:1 correspondence with an amount of incoming data as taught by Kornher, in the system made obvious by the combination of APA and O'Neill, in order to increase and decrease the buffer size as needed and allow a smaller amount of memory space to be reserved for data storage as taught by Kornher.

Claim 19 is rejected using the same rationale as for the rejection of claim 9 above.

Response to Arguments

8. Applicant's arguments filed 19 August 2004 with respect to the rejection of claims 6-7, 10, 16-17 and 20 under 35 U.S.C. 103(a) have been fully considered but they are not persuasive.

Applicant asserts that "the alleged boundary pointers of APA are in fact read pointers (i.e., read pointers that function as boundaries). That is, APA does NOT have boundary pointers" (Amdt. rcvd. 19 Aug. '04, page 6, paragraph 3).

Examiner notes an apparent contradiction in this argument, wherein Applicant admits that the read pointers of APA function as boundaries, but also asserts that APA does not have boundary pointers. Examiner maintains that if a read pointer functions as a boundary, then it must also be a boundary pointer, and therefore APA does indeed teach a boundary pointer.

Applicant also asserts that “any modification of APA using the adjustable boundary pointer teachings of O’Neill ... would require fundamentally changing APA from a one ring buffer to a plural ring buffer as taught by O’Neill” (Amdt. rcvd. 19 Aug. ’04, page 6, paragraph 4). Applicant further argues that “the boundary pointers of O’Neill do NOT correspond to the read pointers of APA, and the teachings of adjustable boundary pointers by O’Neill in a plural ring memory are not applicable to a one-ring memory taught in APA” (Amdt. rcvd. 19 Aug. ’04, page 7, paragraph 1).

Examiner disagrees. APA teaches a combined read/boundary pointer associated with a first buffer that determines the extent of a second buffer, and a combined read/boundary pointer associated with the second buffer that determines the extent of the first buffer, where the first and second buffers are adjacent to one another in a contiguous memory space organized to act as one ring buffer (Spec., Fig. 2; page 2, lines 13-18; page 3, line 20 to page 4, line 8). In other words, APA teaches a memory arranged as one ring buffer comprising a plurality of buffers with combined read/boundary pointers.

O’Neill teaches distinct read and boundary pointer functions that allow the region of memory space made available to each of a plurality of ring buffers arranged adjacent to one another in a contiguous memory space to be controlled in a flexible manner according to the characteristics of the incoming data. In other words, O’Neill teaches a memory comprising a plurality of ring buffers with separate read and boundary pointers. O’Neill is silent as to whether the arrangement of the memory space corresponds to one ring.

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In view of the teachings of APA and O'Neill, it is unclear how incorporating features from O'Neill into APA would require a fundamental change in APA from a one ring buffer to a plural ring buffer. In the context of APA the notion of "one ring buffer" concerns the arrangement of a contiguous memory space that comprises a plurality of buffers. It is further understood that by "plural ring buffer" Applicant means a memory comprising a plurality of ring buffers. These concepts are not mutually exclusive. That is, one of ordinary skill in the art would readily see that the buffers in APA could be made ring buffers without altering the arrangement of the memory space as a ring buffer. Therefore APA would not change from a one ring buffer to a plural ring buffer, but would comprise both properties.

Therefore, the boundary pointer of O'Neill are seen to directly correspond to the boundary pointer function of the combined read/boundary pointer taught by APA, albeit with an additional feature of being adjustable.

Applicant's arguments found in page 7, paragraphs 2 and 3 essentially repeat arguments alleging incompatibilities between a plural ring memory and a one ring memory. Applicant is referred to the response given above.

In response to Applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning (Amdt. rcvd. 19 Aug. '04, page 8, paragraphs 1 and 2), it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not

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include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper.

See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Furthermore, Applicant's arguments regarding improper hindsight rely on the assertions that APA does not teach a boundary pointer, and that incompatibilities exist between a memory with plural rings and the configuration of the same memory as one ring, which assertions have been refuted above.

In response to Applicant's argument that there is no suggestion to combine the references (Amdt. rcvd. 19 Aug. '04, page 9, paragraph 2), the Examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Applicant is referred to the motivation to combine APA and O'Neill as stated in the prior office action and repeated in the rejection above. Applicant is reminded that the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

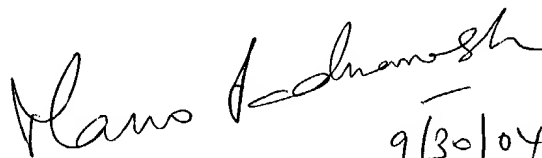
Any inquiry concerning this communication or earlier communications from the examiner should be directed to John M Ross whose telephone number is (703) 305-0706. The examiner can normally be reached on M-F 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mano Padmanabhan can be reached on (703) 306-2903. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


JMR


9/30/04

MANO PADMANABHAN
SUPERVISORY PATENT EXAMINER